Search
117/3,3,89,94,95,97

257/664,149

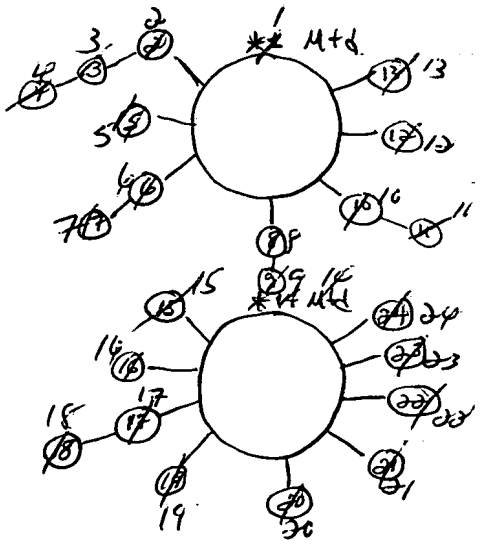
Examiners Notes

S (EEPROM)
S (Second?) (8a) (sacrificial (4) layer)
S (photoresist) (6a) (layer)
S (reduc? or lower or decreas?) (12a) (wordline (4a) width#)
S (increas? or higher? or enhanc?) (10a) (wordline (4a) densit?)
S (memory (4) cell#)
S (Poly(1N) layer)
S (First or primary) (8a) (sacrificial (4) layer)
S (etch? (4a) mask#)
S (spacer)

Drawings

Fig 1A, 102(a) and 103(a) not described in spec.
Fig. 2h item # 203(a) and 202(a) are not described in spec.

Allowable Subject Matter
claims 1-22 and 24



=> d his Search History

STN
(HCAPLUS, USPATALL, INPADOC, JAPIO, INSPEC)
4/20/05

(FILE 'HOME' ENTERED AT 10:15:03 ON 20 APR 2005)

FILE 'STNGUIDE' ENTERED AT 10:15:39 ON 20 APR 2005

FILE 'HOME' ENTERED AT 10:15:44 ON 20 APR 2005

FILE 'HCAPLUS, INPADOC, INSPEC, USPATFULL, USPAT2, JAPIO' ENTERED AT 10:16:34 ON 20 APR 2005

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L1         65367 S (EEPROM)
L2          2484 S (FIRST OR PRIMARY)(8A)(SACRIFICIAL(W)LAYER)
L3           545 S (THIRD)(8A)(SACRIFICIAL(W)LAYER)
L5         78125 S (ETCH?)(4A)(MASK#)
L6         69789 S (PHOTORESIST)(8A)(LAYER)
L7        361259 S (SPACER#)
L8            33 S (REDUC? OR LOWER? OR LESS? OR DECREAS?)(8A)(WORDLINE(4A)WIDTH
L9            13 S (INCREAS? OR ENHANC? OR HIGHER?)(8A)(WORDLINE(4A)DENSITY)
L10            9 S L1 AND L2 AND L3 AND L5
L11            8 S L1 AND L2 AND L3 AND L5 AND L6
L12            7 S L1 AND L2 AND L3 AND L5 AND L6 AND L7
L13            1 S L8 AND L10
L14            1 S L9 AND L10
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=> d l12 1-7 abs,bib

L12 ANSWER 1 OF 7 USPATFULL on STN

AB Methods of making non-volatile field effect devices and arrays of same. Under one embodiment, a method of making a non-volatile field effect device includes providing a substrate with a field effect device formed therein. The field effect device includes a source, drain and gate with a field-modulatable channel between the source and drain. An electromechanically-deflectable, nanotube switching element is formed over the field effect device. Terminals and corresponding interconnect are provided to correspond to each of the source, drain and gate such that the nanotube switching element is electrically positioned between one of the source, drain and gate and its corresponding terminal, and such that the others of said source, drain and gate are directly connected to their corresponding terminals.

AN 2005:87464 USPATFULL
TI Method of making non-volatile field effect devices and arrays of same
IN Bertin, Claude L., South Burlington, VT, UNITED STATES
Rueckes, Thomas, Boston, MA, UNITED STATES
Segal, Brent M., Wobum, MA, UNITED STATES
PA Nantero, Inc. (U.S. corporation)
PI US 2005074926 A1 20050407
AI US 2004-864751 A1 20040609 (10)
PRAI US 2003-476976P 20030609 (60)
DT Utility
FS APPLICATION
LREP WILMER CUTLER PICKERING HALE AND DORR LLP, 60 STATE STREET, BOSTON, MA, 02109
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN 138 Drawing Page(s)
LN.CNT 5457

L12 ANSWER 2 OF 7 USPATFULL on STN

AB Field effect devices having a gate controlled via a nanotube switching element. Under one embodiment, a non-volatile transistor device includes a source region and a drain region of a first semiconductor type of material and each in electrical communication with a respective terminal. A channel region of a second semiconductor type of material is disposed between the source and drain region. A gate structure is disposed over an insulator over the channel region and has a corresponding terminal. A nanotube switching element is responsive to a first control terminal and a second control terminal and is electrically

positioned in series between the gate structure and the terminal corresponding to the gate structure. The nanotube switching element is electromechanically operable to one of an open and closed state to thereby open or close an electrical communication path between the gate structure and its corresponding terminal. When the nanotube switching element is in the closed state, the channel conductivity and operation of the device is responsive to electrical stimulus at the terminals corresponding to the source and drain regions and the gate structure.

AN 2005:73952 USPATFULL
TI Field effect devices having a gate controlled via a nanotube switching element
IN Bertin, Claude L., South Burlington, VT, UNITED STATES
Rueckes, Thomas, Boston, MA, UNITED STATES
Segal, Brent M., Woburn, MA, UNITED STATES
PA Nantero, Inc. (U.S. corporation)
PI US 2005063244 A1 20050324
AI US 2004-864682 A1 20040609 (10)
PRAI US 2003-476976P 20030609 (60)
DT Utility
FS APPLICATION
LREP WILMER CUTLER PICKERING HALE AND DORR LLP, 60 STATE STREET, BOSTON, MA, 02109
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 138 Drawing Page(s)
LN.CNT 5356

L12 ANSWER 3 OF 7 USPATFULL on STN
AB Field effect devices having a source controlled via a nanotube switching element. Under one embodiment, a field effect device includes a source region and a drain region of a first semiconductor type and a channel region disposed therebetween of a second semiconductor type. The drain region is connected to a corresponding terminal. A gate structure is disposed over the channel region and connected to a corresponding terminal. A nanotube switching element is responsive to a first control terminal and a second control terminal and is electrically positioned in series between the source region and a terminal corresponding to the source region. The nanotube switching element is electromechanically operable to one of an open and closed state to thereby open or close an electrical communication path between the source region and its corresponding terminal. When the nanotube switching element is in the closed state, the channel conductivity and operation of the device is responsive to electrical stimulus at the terminals corresponding to the source and drain regions and the gate structure.

AN 2005:72782 USPATFULL
TI Field effect devices having a source controlled via a nanotube switching element
IN Bertin, Claude L., South Burlington, VT, UNITED STATES
Rueckes, Thomas, Boston, MA, UNITED STATES
Segal, Brent M., Woburn, MA, UNITED STATES
Guo, Frank, Danville, CA, UNITED STATES
PA Nantero, Inc. (U.S. corporation)
PI US 2005062070 A1 20050324
AI US 2004-864045 A1 20040609 (10)
PRAI US 2003-476976P 20030609 (60)
DT Utility
FS APPLICATION
LREP WILMER CUTLER PICKERING HALE AND DORR LLP, 60 STATE STREET, BOSTON, MA, 02109
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 138 Drawing Page(s)
LN.CNT 5362

L12 ANSWER 4 OF 7 USPATFULL on STN
AB Non-volatile field effect devices and circuits using same. A

non-volatile field effect device includes a source, drain and gate with a field-modulatable channel between the source and drain. Each of the source, drain, and gate have a corresponding terminal. An electromechanically-deflectable, nanotube switching element is electrically positioned between one of the source, drain and gate and its corresponding terminal. The others of the source, drain and gate are directly connected to their corresponding terminals. The nanotube switching element is electromechanically-deflectable in response to electrical stimulation at two control terminals to create one of a non-volatile open and non-volatile closed electrical communication state between the one of the source, drain and gate and its corresponding terminal. Under one embodiment, one of the two control terminals has a dielectric surface for contact with the nanotube switching element when creating a non-volatile open state. Under one embodiment, the source, drain and gate may be stimulated at any voltage level from ground to supply voltage, and wherein the two control terminals are stimulated at any voltage level from ground to a switching threshold voltage larger in magnitude than the supply voltage. Under one embodiment, the nanotube switching element includes an article made from nanofabric that is positioned between the two control terminals. Under one embodiment, one of the two control terminals is a release electrode for electrostatically pulling the nanotube article out of contact with the one of the source, drain and gate so as to form a non-volatile open state. Under one embodiment, the other of the two control terminals is a set electrode for electrostatically pulling the nanotube article into contact with the one of the source, drain and gate so as to form a non-volatile closed state.

AN 2005:72747 USPATFULL
TI Non-volatile electromechanical field effect devices and circuits using same and methods of forming same
IN Bertin, Claude L., South Burlington, VT, UNITED STATES
Rueckes, Thomas, Boston, MA, UNITED STATES
Segal, Brent M., Woburn, MA, UNITED STATES
Vogeli, Bernhard, Boston, MA, UNITED STATES
Brock, Darren K., Elmsford, NY, UNITED STATES
Jaiprakash, Venkatachalam C., Fremont, CA, UNITED STATES
PA Nantero, Inc. (U.S. corporation)
PI US 2005062035 A1 20050324
AI US 2004-864186 A1 20040609 (10)
PRAI US 2003-476976P 20030609 (60)
DT Utility
FS APPLICATION
LREP WILMER CUTLER PICKERING HALE AND DORR LLP, 60 STATE STREET, BOSTON, MA, 02109
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN 138 Drawing Page(s)
LN.CNT 5389

L12 ANSWER 5 OF 7 USPATFULL on STN
AB Circuit arrays having cells with combinations of transistors and nanotube switches. Under one embodiment, a circuit array includes a plurality of cells arranged in an organization of words, each word having a plurality of bits. Each cell is responsive to a bit line, word line, reference line, and release line. Bit lines are arranged orthogonally relative to word lines and each word line and bit line are shared among a plurality of cells. Each cell is selectable via the activation of the bit line and word line. Each cell includes a field effect transistor coupled to a nanotube switching element. The nanotube switching element is switchable to at least two physical positions at least in part in response to electrical stimulation via the reference line and release line. Information state of the cell is non-volatilely stored via the respective physical position of the nanotube switching element. Under another embodiment, a circuit array includes a plurality of cells arranged in an organization of words, each word having a plurality of bits. Each cell is responsive to a bit line, word line, and reference line. Each word line and bit line are shared among a plurality

of cells. Each cell is selectable via the activation of the bit line and word line. Each cell includes a field effect transistor and a nanotube switching element. Each nanotube switching element includes a nanotube article positioned between a set electrode and a release electrode. The set electrode may be electrically stimulated to electro-statically attract the nanotube article into contact with the set electrode and the release electrode may be electrically stimulated to electro-statically attract the nanotube article out of contact with the set electrode. Information state of the cell is non-volatilely stored via the respective physical position of the nanotube switching element. Cells are arranged as pairs with the nanotube switching elements of the pair being cross coupled so that the set electrode of one nanotube switching element is coupled to the release electrode of the other and the release electrode of the one nanotube switching element being coupled to the set electrode of the other. The nanotube articles are coupled to the reference line, and the source of one field effect transistor of a pair is coupled to the set electrode to one of the two nanotube switching elements and the source of the other field effect transistor of the pair is coupled to the release electrode to the one of the two nanotube switching elements.

AN 2005:66735 USPATFULL
TI Circuit arrays having cells with combinations of transistors and nanotube switching elements
IN Bertin, Claude L., South Burlington, VT, UNITED STATES
Rueckes, Thomas, Boston, MA, UNITED STATES
Segal, Brent M., Woburn, MA, UNITED STATES
Guo, Frank, Danville, CA, UNITED STATES
PA Nantero, Inc. (U.S. corporation)
PI US 2005056866 A1 20050317
AI US 2004-864681 A1 20040609 (10)
PRAI US 2003-476976P 20030609 (60)
DT Utility
FS APPLICATION
LREP WILMER CUTLER PICKERING HALE AND DORR LLP, 60 STATE STREET, BOSTON, MA, 02109
CLMN Number of Claims: 38
ECL Exemplary Claim: 1
DRWN 138 Drawing Page(s)
LN.CNT 5488

L12 ANSWER 6 OF 7 USPATFULL on STN
AB Field effect devices having a drain controlled via a nanotube switching element. Under one embodiment, a field effect device includes a source region and a drain region of a first semiconductor type and a channel region disposed therebetween of a second semiconductor type. The source region is connected to a corresponding terminal. A gate structure is disposed over the channel region and connected to a corresponding terminal. A nanotube switching element is responsive to a first control terminal and a second control terminal and is electrically positioned in series between the drain region and a terminal corresponding to the drain region. The nanotube switching element is electromechanically operable to one of an open and closed state to thereby open or close an electrical communication path between the drain region and its corresponding terminal. When the nanotube switching element is in the closed state, the channel conductivity and operation of the device is responsive to electrical stimulus at the terminals corresponding to the source and drain regions and the gate structure.

AN 2005:66694 USPATFULL
TI Field effect devices having a drain controlled via a nanotube switching element
IN Bertin, Claude L., South Burlington, VT, UNITED STATES
Rueckes, Thomas, Boston, MA, UNITED STATES
Segal, Brent M., Woburn, MA, UNITED STATES
PA Nantero, Inc. (U.S. corporation)
PI US 2005056825 A1 20050317
AI US 2004-863972 A1 20040609 (10)

PRAI US 2003-476976P 20030609 (60)
DT Utility
FS APPLICATION
LREP WILMER CUTLER PICKERING HALE AND DORR LLP, 60 STATE STREET, BOSTON, MA, 02109
CLMN Number of Claims: 12
ECL Exemplary Claim: 1
DRWN 138 Drawing Page(s)
LN.CNT 5342

L12 ANSWER 7 OF 7 USPATFULL on STN
AB A method for forming a double density wordline. A semiconductor substrate having a poly layer, a first insulating layer, a first dummy poly layer, and a second insulating layer is provided. The second insulating layer and the first dummy poly layer separated by an opening are a first wordline mask and a second wordline mask respectively. A **spacer** is formed on a sidewall of the opening, and the opening is filled with a second dummy poly layer. The **spacer**, the second insulating layer, and the exposed first insulating layer are removed to form a third wordline mask, the third wordline is composed of the second dummy poly layer and the unexposed first insulating layer. The poly layer is etched to form a first wordline, a second wordline, and a third wordline using the first wordline mask, the second wordline mask, and the third wordline **mask** as **etching masks**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AN 2004:307322 USPATFULL
TI Method for forming double density wordline
IN Lin, Chun-Jung, Hsin-Chu, TAIWAN, PROVINCE OF CHINA
PI US 2004241993 A1 20041202
AI US 2003-664149 A1 20030917 (10)
PRAI TW 2003-92114546 20030529
DT Utility
FS APPLICATION
LREP BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN 5 Drawing Page(s)
LN.CNT 279
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=>

Day : Wednesday

PALM INTRANET

Date: 4/20/2005
Time: 10:34:11

Inventor Name Search Result

Your Search was:

Last Name = LIN
First Name = CHUN-JUNG

Application#	Patent#	Status	Date Filed	Title	Inventor Name
08632178	5880040	150	04/15/1996	GATE DIELECTRIC BASED ON OXYNITRIDE GROWN IN N2O AND ANNEALED IN NO	LIN, CHUN-JUNG
09414899	6397377	150	10/08/1999	METHOD OF PERFORMING OPTICAL PROXIMITY CORRECTIONS OF A PHOTO MASK PATTERN BY USING A COMPUTER	LIN, CHUN-JUNG
09421260	6166943	150	10/20/1999	METHOD OF FORMING A BINARY CODE OF A ROM	LIN, CHUN-JUNG
09811392	6599680	150	03/20/2001	METHOD FOR FORMING CELLS ARRAY OF MASK READ ONLY MEMORY	LIN, CHUN-JUNG
09811393	6570235	150	03/20/2001	CELLS ARRAY OF MASK READ ONLY MEMORY	LIN, CHUN-JUNG
09847110	6576511	150	05/02/2001	METHOD FOR FORMING NITRIDE READ ONLY MEMORY	LIN, CHUN-JUNG
09930843	6468869	150	08/14/2001	METHOD OF FABRICATING MASK READ ONLY MEMORY	LIN, CHUN-JUNG
10020213	6521499	150	12/18/2001	METHOD FOR FORMING NON-VOLATILE MEMORY WITH SELF-ALIGNED CONTACT	LIN, CHUN-JUNG
10047685	6440803	150	01/14/2002	METHOD OF FABRICATING A MASK ROM WITH RAISED BIT-LINE ON EACH BURIED BIT-LINE	LIN, CHUN-JUNG
10083757	Not Issued	161	02/25/2002	AIR GUN WITH ROTATABLE AND ADJUSTABLE SPRAY TUBE	LIN, CHUN-JUNG
10153892	6621129	150	05/24/2002	MROM MEMORY CELL	LIN, CHUN-JUNG

				STRUCTURE FOR STORING MULTI LEVEL BIT INFORMATION	
10154719	Not Issued	164	05/24/2002	METHOD OF FABRICATING AN OPTICAL FIBER MODULE	LIN, CHUN-JUNG
10249756	Not Issued	161	05/06/2003	[NON-VOLATILE MEMORY DEVICE STRUCTURE]	LIN, CHUN-JUNG
10664149	Not Issued	030	09/17/2003	METHOD FOR FORMING DOUBLE DENSITY WORDLINE	LIN, CHUN-JUNG

Inventor Search Completed: No Records to Display.

Search Another: Inventor **Last Name** Lin **First Name** Chun-Jung Search

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